

## **Immunological matching**

There are several proteins (Human Leukocyte Antigens, HLA) on white blood cells that make each person's tissue unique. These HLA proteins (types A, B, C and DR) are important in matching patients and donors for a bone marrow or blood stem cell transplant. The matching for stem cell transplant is much more complicated than matching for red cell blood types. HLA typing is performed at HLA Labs on samples of blood drawn from the patient and donor.

The most likely place to find a matched donor is within the patient's own family. Siblings (brothers or sisters) will more likely match than other relatives, such as parents, children, or cousins. All humans inherit 1/2 of their entire genetic make-up, and thus of their HLA-type, from their mother and the other 1/2 from their father. For each full sibling, a patient has a one in four (25%) chance of a full match.

Thus, if you have full siblings, the chances of having a completely matched donor are 44 % to 68% if you have two or four siblings, respectively.